Is There a Consensus Among Economists in the 1990's?

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In a 1976 survey, Kearl et al. (1979; hereafter, "the 1976 survey") concluded that the then widespread perception that there was little agreement among professional economists on matters of theory or policy was simply wrong. However, the most casual empiricism, namely the continuing popularity of jokes about disagreements among economists, suggests the perception of noneconomists has not changed much since the 1970's. What is the present state of consensus among economists? This question is of interest because more than a decade has elapsed since the 1976 survey and during this time many issues confronting economists and the composition of the profession have changed.[1] Benjamin M. Friedman and Lawrence H. Summers (1991 p. ix), for example, have asserted that "...economic thinking in many subfields of the discipline now differs markedly from what it was in 1970...." Consensus among European economists has been examined by Bruno S. Frey et al. (1984). Martin Ricketts and Edward Shoesmith (1990, 1992) focus exclusively on British economic opinion. This paper provides the first general analysis of opinions of U.S. economists in more than a decade.

I. The Survey and Questionnaire

To examine opinions and the extent of consensus, a two-page questionnaire was sent to a stratified random sample of 1,350 economists employed in the United States, consisting of (i) 200 economists in 10 leading graduate programs, (ii) 200 other members of the American Economic Association, (iii) 150 government economists, (iv) 150 business economists, (v) 500 economists teaching Principles of Economics at four-year colleges and universities and (vi) 150 evolutionary economists. The overall response rate was 34.4 percent, or a total of 464 respondents. The response rates by group were 29, 40, 30, 28, 36, and 41 percent, respectively. We reject the hypothesis of identical response rates at the 0.05 level of statistical significance.

Each recipient was asked to indicate general agreement, agreement with provisos, or general disagreement with each of 40 statements. The degree of consensus was estimated using a measure of relative entropy (ε) which ranges between 0 (perfect consensus) and 1 (no consensus).[2]

II. Degree of Consensus

Table 1 reports the responses to each proposition along with the entropy index (nonresponses are not shown). In addition, Table 1 also reports the mean response (we

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[1]In the random sample of economists reported here, 43.6 percent of the respondents were awarded their highest degree after 1976.

[2]Relative entropy (ε) is defined as observed entropy divided by the maximum possible entropy for the number of outcomes considered, where entropy is the sum of the probability of a particular outcome multiplied by the log (base 2) of the probability [i.e., $(-\Sigma p_i \log_2 p_i)$]. A relative-entropy value of 1.0 would result if the respondents were equally distributed across the three response options.

TABLE 1—PROPOSITIONS, RESPONSES, ENTROPY, AND MEAN RESPONSE FOR TOTAL SAMPLE

Propositions	R	%	ε	Mean
1 Tariffs and import quotas usually reduce general economic welfare.	1	6.5		
	2	21.3	0.57	2.65
	3	71.3		
2 A large federal budget deficit has an adverse effect on the economy.	1	15.7		
	2	47.6	0.79	2.20
	3	35.1		
3 The money supply is a more important target than interest rates for monetary policy.	1	40.1		
	2	22.4	0.85	1.94
	3	34.3		
4 Cash payments increase the welfare of recipients to a greater degree than do transfers-in-kind of equal cash value.	1	15.1		
	2	25.9	0.72	2.43
	3	58.0		
5 Flexible and floating exchange rates offer an effective international monetary arrangement.	1	8.4		
	2	33.6	0.70	2.49
	3	56.0		
6 As the USSR moves toward a market economy, a rapid and total reform (i.e., "going cold turkey") would result in a better outcome than a slow transition.	1	40.1		
	2	30.4	0.84	1.87
	3	27.2		
7 A minimum wage increases unemployment among young and unskilled workers.	1	20.5		
	2	22.4	0.74	2.36
	3	56.5		
8 An economy in short-run equilibrium at a real GNP below potential GNP has a self-correcting mechanism that will eventually return it to potential real GNP.	1	47.6		
	2	29.5	0.81	1.73
	3	21.3		
9 Fiscal policy (e.g., tax cut and/or expenditure increase) has a significant stimulative impact on a less than fully-employed economy.	1	9.1		
	2	30.6	0.67	2.51
	3	59.3		
10 The distribution of income in the United States should be more equal.	1	26.7		
	2	24.4	0.85	2.22
	3	48.5		
11 Wage contracts are the primary factor that prevents the economy from continuously operating at full employment.	1	72.4		
	2	20.9	0.57	1.32
	3	5.2		
12 Antitrust laws should be enforced vigorously to reduce monopoly power from its current level.	1	27.6		
	2	36.9	0.92	2.07
	3	34.9		
13 Inflation is primarily a monetary phenomenon.	1	28.5		
	2	30.4	0.84	2.11
	3	39.7		
14 The government should restructure the welfare system along the lines of a "negative income tax."	1	19.0		
	2	34.1	0.83	2.26
	3	44.4		
15 Wage-price controls are a useful policy option in the control of inflation.	1	73.9		
	2	17.7	0.53	1.34
	3	8.4		
16 A ceiling on rents reduces the quantity and quality of housing available.	1	6.5		
	2	16.6	0.52	2.70
	3	76.3		
17 The Fed should increase the money supply at a fixed rate.	1	54.1		
	2	30.6	0.75	1.58
	3	13.4		
18 Effluent taxes or marketable pollution permits represent a better approach to pollution control than imposition of pollution ceilings.	1	20.5		
	2	22.6	0.74	2.36
	3	55.6		
19 The government should issue an inflation indexed security.	1	36.4		
	2	26.3	0.89	1.95
	3	32.1		
20 The level of government spending relative to GNP should be reduced (disregarding expenditures for stabilization).	1	44.6		
	2	19.0	0.79	1.91
	3	35.6		
21 The Fed has the capacity to achieve a constant rate of growth of the money supply if it is desired.	1	36.6		
	2	35.8	0.84	1.89
	3	25.4		
22 Economic evidence suggests there are too many resources in American agriculture.	1	21.3		
	2	23.9	0.85	2.29
	3	48.7		
23 Reducing the regulatory power of the Environmental Protection Agency (EPA) would improve the efficiency of the U.S. economy.	1	62.3		
	2	25.4	0.69	1.47
	3	10.6		
24 If the federal budget is to be balanced, it should be done over the business cycle rather than yearly.	1	13.4		
	2	24.8	0.72	2.48
	3	60.1		
25 The cause of the rise in gasoline prices that occurred in the wake of the Iraqi invasion of Kuwait is the monopoly power of the large oil companies.	1	67.5		
	2	20.3	0.63	1.43
	3	11.4		

TABLE 1—CONTINUED

Propositions	R	%	ε	Mean
26 The redistribution of income within the U.S. is a legitimate role for government.	1 2 3	16.8 25.4 56.5	0.73	2.40
27 In the short run, a reduction in unemployment causes the inflation rate to increase.	1 2 3	39.4 41.0 17.7	0.81	1.78
28 The major source of macroeconomic disturbances is supply-side shocks.	1 2 3	54.7 28.2 12.1	0.79	1.55
29 There is a natural rate of unemployment to which the economy tends in the long run.	1 2 3	30.8 34.1 34.3	0.82	2.03
30 "Consumer protection" laws generally reduce economic efficiency.	1 2 3	55.8 23.9 18.3	0.76	1.62
31 In the movement from a non-market to a market economy (e.g., Poland) it is important that the ownership of productive resources be privatized at the onset.	1 2 3	23.7 38.4 35.1	0.85	2.12
32 Rational expectations on the part of actors in markets play an important role in preventing significant swings in real aggregate output.	1 2 3	45.9 34.7 16.6	0.82	1.70
33 Changes in aggregate demand affect real GNP in the short run but not in the long run.	1 2 3	43.8 32.1 20.7	0.84	1.76
34 A large balance of trade deficit has an adverse effect on the economy.	1 2 3	33.8 37.3 26.3	0.86	1.92
35 Lower marginal income tax rates reduce leisure and increase work effort.	1 2 3	43.8 32.8 22.6	0.80	1.79
36 Collusive behavior is likely among large firms in the United States.	1 2 3	27.8 30.8 40.7	0.82	2.13
37 The trade deficit is primarily a consequence of the inability of U.S. firms to compete.	1 2 3	51.5 29.7 18.1	0.76	1.66
38 The competitive model is generally more useful for understanding the U.S. economy than are game theoretic models of imperfect competition or collusion.	1 2 3	39.7 32.3 25.2	0.85	1.85
39 Reducing the tax rate on income from capital gains would encourage investment and promote economic growth.	1 2 3	49.8 28.2 21.1	0.78	1.71
40 The U.S. government should retaliate against dumping and subsidies in international trade.	1 2 3	47.6 35.1 15.1	0.78	1.67

Notes: In column 2, R = response, where 1 = generally disagree, 2 = agree with provisos, and 3 = generally agree. In column 4, ε = entropy. The responses do not sum to 100 percent due to rounding and because the "no response" category is not listed.

follow the 1976 survey in that weights of 1, 2, and 3 are given to "generally disagree," "agree with provisos," and "generally agree," respectively). To test the hypothesis that there is no consensus among the respondents (i.e., the relative entropy index equals 1.0) a chi-square test of significance was conducted for each proposition. Although some propositions (e.g., nos. 12, 19, and 29) show relatively equal distributions across the three responses, we reject the hypothesis of no consensus for all 40 propositions at the 0.01 significance level.[3]

[3]Following Kearl et al. (1979), the initial test treated "no answer" as a fourth response. When "no answer" responses are not included and the sample size is reduced accordingly, we reject the hypothesis of no consensus for all but propositions 12 and 19 at the 0.01 significance level and for proposition 29 at the 0.05 level.

Interestingly, a majority of the respondents chose one or the other of the polar extremes, "generally agree" or "generally disagree," for 17 of the 40 propositions. These include proposition numbers 1 (tariffs and quotas hurt), 4 (cash payments increase welfare more than payments-in-kind), 5 (flexible exchange rates are useful), 7 (minimum wages increase unemployment), 9 (fiscal policy works), 11 (wage contracts are [not] the primary cause of unemployment), 15 (wage-price controls are [not] a useful way of dealing with inflation), 16 (rent controls hurt), 17 (the Fed should [not] pursue a money rule), 18 (effluent taxes and marketable permits are better than pollution standards), 23 (curtailing the EPA would [not] improve the efficiency of the economy), 24 (if the Federal budget is to be balanced, it should be over the business cycle), 25 (monopoly power was [not] the cause of the increase in price of oil during the Kuwait crisis), 26 (redistribution of income is a legitimate role for government), 28 (supply shocks are [not] the major source of macroeconomic disturbances), 30 (consumer protection laws do [not] reduce efficiency), and 37 (the trade deficit is [not] due to the inability of U.S. firms to compete). In all 17 cases, relative entropy (ε) is 0.79 or lower, and the mean deviates more than 0.33 from the mean of 2.0, which would be observed if the entropy index were 1.0 (no consensus).

TABLE 2—DISTRIBUTION AND MEAN RESPONSES, IN 1976 AND 1990, FOR PROPOSITIONS HAVING SIGNIFICANTLY DIFFERENT RESPONSE PATTERNS

Proposition	Survey date	1 %	2 %	3 %	Mean
1. Tariffs reduce welfare	1976	3	16	81	2.8
	1990	6	18	76	2.7
3. Monetary target	1976	29	23	48	2.2
	1990	44	22	34	1.9
4. Cash payments	1976	8	24	68	2.6
	1990	14	24	62	2.5
7. Minimum wage	1976	10	22	68	2.6
	1990	18	21	61	2.4
12. Antitrust enforcement	1976	15	36	49	2.3
	1990	28	36	36	2.1
13. Inflation is monetary	1976	43	30	27	1.8
	1990	29	32	39	2.1
14. Negative income tax	1976	8	34	58	2.5
	1990	22	30	48	2.3
21. Fed control of money	1976[a]	22	42	36	2.1
	1990	39	36	25	1.9
27. Phillips trade-off	1976	36	33	31	2.0
	1990	44	40	16	1.7
30. Consumer protection	1976[b]	48	28	24	1.8
	1990	55	27	18	1.6

Notes: 1 = generally disagree, 2 = agree with provisos, 3 = generally agree. To maintain comparability between surveys, Principles teachers and evolutionary economists are omitted in 1990.

[a]An error in the original reporting of the response rates for proposition 21 has been corrected.

[b]This is proposition 29 in the 1976 survey.

III. Changes Over the Past Decade

To what extent have opinions of economists altered over time? To test the hypothesis that no major shifts in economic opinion took place between 1976 and 1990, a chi-square test of difference was used for the 21 propositions common to both the 1976 and 1990 surveys. To make the samples more comparable, we have limited respondents to the four strata common to both surveys (AEA top ten, AEA other, government, and business) and, like the 1976 survey, have omitted those who did not respond to a particular proposition and reduced the sample size accordingly. We reject the hypothesis of similar distributions (i.e., no change) at the 0.01 level of statistical significance for eight of the propositions and at the 0.05 level for propositions 1 and 21.

For these ten propositions, Table 2 contrasts the distribution and mean response patterns of the 1976 and 1990 surveys. Three propositions with significantly different response patterns deal with the role money plays in the economy. Specifically, economists appear to be less inclined to think of the money supply as a more important target than interest rates (no. 3) but more inclined to think of inflation as a

monetary phenomenon (no. 13). They also want to hedge their bets more on the ability of the Fed to pursue a monetary rule (no. 21). The only proposition concerning monetary policy with unchanged opinion over the period was number 17, a fixed-rate growth rule, for which a relatively strong consensus to reject was present in both 1976 and 1990.

On other issues, compared to the 1976 survey, the current survey shows more disagreement with the Phillips trade-off between unemployment and inflation (no. 27) and the claim that consumer-protection laws reduce efficiency (no. 30). The survey also shows that economists continue to agree (but to a lesser extent) that tariffs reduce welfare (no. 1), that cash payments are better than in-kind transfers (no. 4), that minimum wages increase unemployment (no. 7), that antitrust enforcement should be more rigorous (no. 12), and that the welfare system should be restructured along the lines of a "negative income tax" (no. 14). Although space does not presently allow a full discussion, a 2×2 analysis of variance confirms the prior result of the 1976 survey that consensus is stronger on microeconomic than on macroeconomic propositions and is stronger on positive than on normative propositions.

IV. Vintage of Degree

To determine whether the "era" in which respondents attain their formal economic education explains some of the variance among responses, we examined the decade in which each respondent attained his or her highest degree (i.e., prior to 1961, 1961–1970, 1971–1980, and 1981–1990). Based upon a chi-square test, we reject the hypothesis that responses were independent of "degree vintage" at the 0.05 significance level for 16 of 40 propositions. Table 3 reports the responses on these propositions by degree-vintage category.

Interestingly, a smaller proportion of respondents who received their highest degree prior to 1961 think tariffs reduce welfare (no. 1), and a larger proportion of this group tend to favor retaliation against subsidies and dumping in international trade

TABLE 3—PROPOSITIONS FOR WHICH DEGREE VINTAGE IS SIGNIFICANT

Proposition	Decade	1 %	2 %	3 %
1. Tariffs reduce welfare	A	18.9	15.1	66.0
	B	3.2	24.5	72.3
	C	4.0	19.9	76.2
	D	6.5	22.5	71.0
6. USSR should go cold turkey	A	38.5	38.5	23.1
	B	38.7	28.0	33.3
	C	30.4	38.5	31.1
	D	54.1	24.4	21.5
7. Minimum wage increases unemployment	A	18.5	25.9	55.6
	B	25.3	28.4	46.3
	C	14.0	19.3	66.7
	D	24.8	19.0	56.2
8. The macro economy is self-correcting	A	60.4	30.2	9.4
	B	53.7	25.3	21.1
	C	38.9	33.6	27.5
	D	48.9	29.2	21.9
9. Fiscal policy has stimulative effect	A	3.7	16.7	79.6
	B	10.6	23.4	66.0
	C	12.0	36.7	51.3
	D	5.8	36.5	57.7
13. Inflation is a monetary phenomenon	A	43.4	22.6	34.0
	B	35.1	29.8	35.1
	C	24.0	30.7	45.3
	D	23.7	37.0	39.3
17. Fed should follow money growth rule	A	77.4	15.1	7.5
	B	59.1	29.0	11.8
	C	49.7	34.2	16.1
	D	48.1	37.0	14.8
23. EPA has negative impact on efficiency	A	90.0	4.0	6.0
	B	61.1	27.4	11.6
	C	61.3	28.7	10.0
	D	60.6	29.2	10.2
25. Oil price rise caused by monopoly power	A	72.2	18.5	9.3
	B	66.0	23.4	10.6
	C	76.8	17.2	6.0
	D	58.8	23.5	17.6
26. Income redistribution is legitimate	A	20.8	15.1	64.2
	B	14.9	23.4	61.7
	C	17.6	35.1	47.3
	D	15.1	23.0	61.9
29. There is a natural rate of unemployment	A	53.7	22.2	24.1
	B	30.5	35.8	33.7
	C	26.8	40.3	32.9
	D	24.1	37.2	38.7
35. Marginal tax rates impact work effort	A	57.4	27.8	14.8
	B	47.9	26.6	25.5
	C	34.7	38.0	27.3
	D	43.9	36.7	19.4

TABLE 3—CONTINUED

Proposition	Decade	1 %	2 %	3 %
36. Collusion among U.S. firms is likely	A	25.9	22.2	51.9
	B	28.4	29.5	42.1
	C	34.9	33.6	31.5
	D	19.6	34.1	46.4
37. Trade deficit caused by inability to compete	A	61.1	18.5	20.4
	B	53.7	31.6	14.7
	C	58.7	26.7	14.7
	D	41.6	37.2	21.2
38. Lower capital gains tax will stimulate investment	A	55.8	37.2	7.0
	B	43.2	24.2	32.6
	C	33.1	37.8	29.1
	D	47.0	37.1	15.9
40. U.S. should retaliate against dumping	A	29.6	44.4	25.9
	B	35.1	46.8	18.1
	C	56.1	29.7	14.2
	D	57.4	31.6	11.0

Notes: 1 = generally disagree; 2 = agree with provisos; 3 = generally agree. A = before 1961; B = 1961–1970; C = 1971–1980; D = 1981–1990.

(no. 40). A greater proportion of this group generally disagree that the trade deficit is caused by the inability of U.S. firms to compete (no. 37).

The degree-vintage factor also plays an important role in explaining responses to macroeconomic propositions. Thus, those who received their highest degree prior to 1961 or in the 1960's showed a greater tendency to disagree with the notion of a self-correcting economy (no. 8) and the existence of a natural rate of unemployment (no. 29). There was also a higher proportion among these two groups who generally agreed with the stimulative impact of fiscal policy (no. 9). With respect to monetary considerations, the older one's highest degree the greater the tendency to disagree with the notion that inflation is a monetary phenomenon (no. 13) and that the Fed should follow a money growth rule (no. 17).

The importance of degree vintage suggests that during the course of graduate study, some economists form economic convictions which they preserve for decades. In light of this, it is interesting to question the influence of postgraduate research upon the retention of economic beliefs. Since research is widely viewed as serving to keep one abreast of recent developments in the field, participation in research may erode the importance of degree vintage upon the convictions held by the researcher. Indeed, much research is structured to falsify prior tenets. Alternatively, research is largely done in a specialized field of interest, which may have been first embraced in graduate school. Therefore, during their careers, active researchers may come to embrace more fully views which were only tenuously held as graduate students.

To examine this issue, the hypothesis that responses to survey propositions are independent of degree vintage was tested for the strata of economists working at the top ten universities, presumably economists regularly engaged in research activities. The hypothesis could not be rejected for any of the 40 propositions. This finding contrasts sharply with the rejection of the hypothesis for 16 of 40 propositions when the entire sample is examined.

In addition, when the entropy index is calculated for each stratum and averaged across the 40 propositions, the AEA top-ten stratum exhibits greater consensus than do Principles teachers, business economists, government economists, or other AEA members. While not conclusive, this finding is consistent with the view that involvement in research does serve to change the perceptions of researchers and to keep them abreast of the field.[4]

Frey and Reiner Eichenberger (1992) also examine the influence of research upon economic opinion by testing for differing consequences arising from the relatively narrow criteria of peer-reviewed publication and accompanying citations used by academic institutions in the United States with what

[4]The average entropy values by strata are 71.0 (AEA elite), 75.9 (Principles teachers), 74.7 (government economists), 73.0 (business economists), and 74.0 (other AEA members). Evolutionary economists exhibit the greatest consensus with an average entropy of 63.4.

they view as a more broadly defined European perspective of scholarship. Their finding that the character of scholarship does influence economic opinion is consistent with our premise that engagement in research may alter views previously held.

V. Summary Remarks

Based on our analysis of six strata of economists, we conclude that on 40 propositions covering a wide range, but certainly not all important or even relevant issues, there is much consensus among economists.[5] There has been significant change in economists' views on 10 of 21 common propositions surveyed in 1976 and 1990. In particular, economists have substantially altered their collective view on monetary matters. We found that, for 16 propositions, the vintage of one's highest attained degree was a significant explanatory variable. This result is tempered by our finding that the explanatory power of degree vintage is significantly reduced for those actively engaged in research.

[5]A longer paper (Alston et al., 1992) reports that statistically significant differences across survey occupation/affiliation strata exist for 34 of 40 propositions and finds that survey responses were statistically related to annual income for 9 of 40 propositions.

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